## **PCT**







## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:
C23C 28/04, B23B 27/20
A1
(11) International Publication Number: WO 00/60137
(43) International Publication Date: 12 October 2000 (12.10.00)

DE

(21) International Application Number: PCT/EP00/02890

(22) International Filing Date: 31 March 2000 (31.03.00)

(--, ------

(71) Applicant (for all designated States except US): CEME-CON-CERAMIC METAL COATINGS-DR.-ING. ANTO-

NIUS LEYENDECKER GMBH [DE/DE]; Adenauerstrasse

31 March 1999 (31.03.99)

20B1, D-52146 Würselen (DE).

(72) Inventors; and

(30) Priority Data:

199 14 585.7

(75) Inventors'Applicants (for US only): LEMMER, Oliver [DE/DE]; Oppenhoffallee 56, D-52066 Aachen (DE). FRANK, Martin [DE/DE]; An den Frauenbrüdern 6,

D-52064 Aachen (DE).

(74) Agent: WENZEL & KALKOFF; Flasskuhle 6, D-58452 Witten (DE).

(81) Designated States: CA, IL, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

## **Published**

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: DIAMOND-COATED TOOL AND PROCESS FOR PRODUCING THEREOF

## (57) Abstract

The invention relates to a coated component, in particular a coated tool for machining, having a substrate and a first carbon layer, which is applied to the substrate and has a predetermined fraction of carbon with a diamond crystal structure. There is the problem with such a component that the adhesive strength of the first carbon layer on the substrate is unsatisfactory in many instances. This problem is solved by virtue of the fact that provision is made of a second carbon layer, which is arranged further outside with reference to the substrate than the first carbon layer, and in the case of which the fraction of carbon with a diamond crystal structure is lower than the predetermined fraction of carbon with a crystal diamond structure in the first carbon layer. The invention also relates to a process for producing such a coated component.